

CLAIMS

1. An information recording apparatus for recording record information onto an information recording medium comprising: at least a first recording layer having a first recording capacity; and a second recording layer having a second recording capacity,

5 said information recording apparatus comprising:

a writing device for writing the record information into the first recording layer and the second recording layer;

10 a calculating device for calculating a turn-around address when the record information is recorded continuously into the first recording layer and the second recording layer, on the basis of an entire information amount of the record information and the first and second recording capacities; and

15 a controlling device for controlling said writing device (I) to write a first portion of the record information into the first recording layer up to the calculated turn-around address and (II) to write a remaining second portion of the record information from a corresponding address in the second recording layer which corresponds to the calculated turn-around address in the first recording layer.

20

2. The information recording apparatus according to claim 1, wherein said calculating device calculates the turn-around address such that an information amount of the second portion is equal to or less than an information amount of the first portion.

25

3. The information recording apparatus according to claim 1, wherein

1 said writing device is constructed to write the record information by a
2 predetermined recording unit, and

3 said calculating device calculates the turn-around address such that
4 each of the first portion and the second portion is a multiple of the
5 predetermined recording unit.

6 4. The information recording apparatus according to claim 1, wherein
7 said calculating device calculates the turn-around address only if the entire
8 information amount of the record information is greater than the first
9 recording capacity.

10 5. The information recording apparatus according to claim 1, wherein
11 said information recording apparatus further comprises a
12 communicating device, which is communicably connected to a host computer
13 for providing the record information, and into which firmware logically
14 constituting said calculating device is incorporated, and

15 said writing device and said controlling device obtain the record
16 information from the host computer through said communicating device.

17 20 6. An information recording method in an information recording
18 apparatus comprising a writing device capable of writing record information
19 into a first recording layer and a second recording layer on an information
20 recording medium comprising: at least the first recording layer having a first
21 recording capacity; and the second recording layer having a second recording
22 capacity,

23 said information recording method comprising:

a calculating process of calculating a turn-around address when the record information is recorded continuously into the first recording layer and the second recording layer, on the basis of an entire information amount of the record information and the first and second recording capacities; and

5 a controlling process of controlling said writing device (I) to write a first portion of the record information into the first recording layer up to the calculated turn-around address and (II) to write a remaining second portion of the record information from a corresponding address in the second recording layer which corresponds to the calculated turn-around address in
10 the first recording layer.

7. A computer program of instructions for recording control and for tangibly embodying a program of instructions executable by a computer provided in said information recording apparatus according to claim 1, to
15 make the computer function as at least one portion of said writing device, said calculating device, and said controlling device.